

The Russian Glonass System: Signs of New Life

The Ability to Track Both Russians and American Satellites Can Considerably Improve the Reliability of GPS Equipment in Practical Earthmoving Applications

The Russian Federation launched three additional Glonass satellites in December last year, the first replenishment of the constellation in over a year.

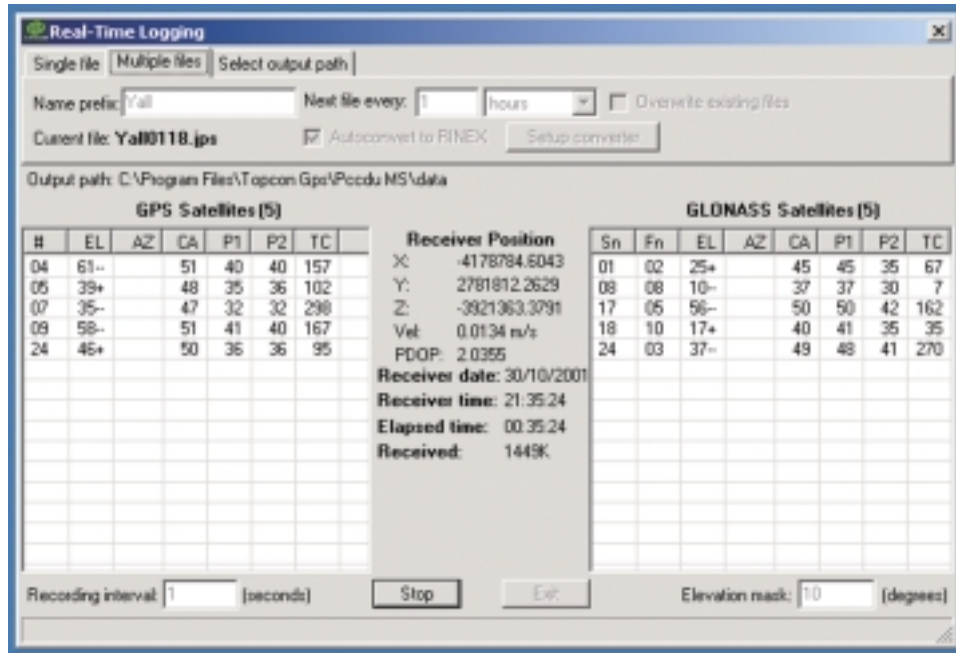
For a brief time early in 1996, the Russian counterpart to GPS had a full complement of 21 satellites operating. Since then, however, economic and political constraints caused the Glonass constellation to gradually decline so that only six satellites were operating by the end of November.

However, some recent actions suggest that Russia may attempt to reinvigorate its satellite navigation program. On August 20, the Russian Federation government approved a 23.6-billion-ruble (about \$791 million) allocation for Glonass as part of a 2002-2011 "federal dedicated program" for a global navigation system. About 40 percent of the money will come from federal and regional budgets and the remainder from "non-budgetary funds," according to an on-line Pravda news service article.

In comments to the Navsat 2001 conference in Nice, France, Georgiy Polischuk, deputy director general of Rosaviakosmos (the Russian aviation and space agency), said that his agency would use the funds to launch six additional satellites per year through 2004 in an effort to recreate a constellation of 15 to 18 satellites, with additional launches in succeeding years. The Russian official said that the first of a long-awaited modernised Glonass satellite—Glonass-M—would be launched in 2002, with a new generation of spacecraft designated Glonass-K planned for launch beginning in 2005.

(Reproduced courtesy of 'GPS World')

Mike Manning of ABC Lasers has provided the screen display (above) from one of their installations operating for Roche Thies Linfox at Yallourn.



"The display shows five GPS and five Glonass satellites being tracked by a Topcon receiver, the only dual frequency receiver capable of accessing both the American and Russian systems. This significantly improves reliability, and keeps machines working when they would otherwise experience downtime."

A display is reproduced below,

from the mission planning software supplied by ABC Lasers that permits operators to organise their work around the availability of adequate satellite reception.

Mike points out that the time frame of 9–9.30am illustrates his point; if only one more GPS signal drops out, the system would need Glonass to maintain accuracy. 